

1/2 036 UNCLASSIFIED PROCESSING DATE--27NOV70  
TITLE--SPECTROSCOPIC STUDY OF THE LOW TEMPERATURE RADIOLYSIS OF SOME  
POLYOLEFINS -U-  
AUTHOR-(04)-DZHIBGASHVILI, G.G., SLOVOKHOTOVA, N.A., LESHCHENKO, S.S.,  
KARPOV, V.L.  
COUNTRY OF INFO--USSR

SOURCE--KHIM. VYS. ENERG. 1970, 4(3), 281-2

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, NUCLEAR SCIENCE AND TECHNOLOGY, PHYSICS

TOPIC TAGS--IR SPECTRUM, RADIOLYSIS, POLYETHYLENE, PROPYLENE, BUTENE,  
COPOLYMER, LOW TEMPERATURE EFFECT, CYCLIC STRUCTURE, FREE RADICAL,  
POLYMER CROSSLINKING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3008/0861

STEP NO--UR/0456/70/004/003/0281/0282

CIRC ACCESSION NO--AP0137889

UNCLASSIFIED

2/2 036

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0137889

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IR SPECTRA WERE STUDIED OF HIGH D. POLYETHYLENE, ETHYLENE PROPYLENE COPOLYMER, AND ETHYLENE ALPHA-BUTYLENE COPOLYMER, AFTER IRRADN. AT NEGATIVE 180DEGREES. THE APPEARANCE OF NEW IR BANDS OR THE INCREASE IN THE INTENSITY OF SOME OF THE ORIGINAL BANDS SHOWED THAT LOW TEMP., FREE RADICAL CROSSLINKING, FORMATION OF CYCLIC STRUCTURES (CYCLOPENTANES, CYCLOHEXANES), AND FORMATION OF TRANS VINYLENE GROUPS OCCURRED. FACILITY: FIZ. KHM. INST. IM. KARPOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 620.171.3.531.781.2.087-92.62-974

LESHCHENKO, V. M., DOZLOV, I. A., NOVIKOV, N. V., POTAPOVA, V. F., SENIN, A. M.  
and GORODYSKIY, N. I. Institute of Strength Problems, Ukrainian SSR Academy  
of Sciences (Kiev, Kaliningrad, Moskovskaya oblast)

"Investigation of the Work Capability of Series-Produced Tensoresistors Under  
Temperature Conditions to -269°C"

Kiev, Problemy Prochnosti, No 11, Nov 73, pp 101-105

**Abstract:** On the basis of experimental research, it is established that series-produced tensoresistors, with the use of constantan for the sensitive element and vinyflex lacquer as the base and adhesive, may be used for the measurement of deformations at static and dynamic loads under low-temperature conditions (to -269°C). An evaluation is made of the influence of low temperatures upon the coefficient of tensoresistor sensitivity, and consideration is given to the origination of apparent deformations and to the possibilities of taking them into account.

It was found that tensoresistors made in the manner described above are capable of functioning to a relative deformation of  $\varepsilon \approx 2.5\%$ , and that with dynamic loading at a temperature of -269°C and with symmetric loading to a relative deformation of  $\varepsilon = \pm 0.434\%$  these tensoresistors are capable of 1/2

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USSR

LESHCHENKO, V. M., et al., Problemy Frochnosti, No 11, May 73, pp 101-105

functioning for up to  $(2.4-3.1) \times 10^6$  cycles. The stressed and deformed state of tubular specimens from various materials was investigated during cooling of the specimens from 20 to  $-269^{\circ}\text{C}$ .

For measuring deformations brought about by temperature gradients or due to inhomogeneity of the material of the components, tensoresistors with identical temperature characteristics should be used, and the tensoresistors should be selected and grouped on the basis of the apparent deformations in the given temperature interval.

7 figures. 6 references.

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: USSR

UDC 539.4:621.835.8

LESHCHENKO, V. M., KOZLOV, I. A., GONTAROVSKIY, V. P., Institute of Problems of Strength of the Academy of Sciences UkrSSR, Kiev; Zhitomir General Engineering Faculty of Kiev Polytechnical Institute, Zhitomir

"A Method for Calculating Rotating Discs of Complex Profile"

Kiev, Problemy prochnosti, No. 5, May 72, pp 3-9

Abstract: A numerical method for analyzing the elastic equilibrium of composite axisymmetrically loaded shells of rotation is the basis of the calculation. The method is extended to the case of discs of complex shape in the elastic and elastic-plastic regions and also to the case of calculating composite discs where the physical properties of the material along the radius varies according to any given law. In the calculation method the discs are replaced by a set of plates of variable thickness and conical shells connected rigidly to one another in an arbitrary fashion. Arbitrary boundary conditions are assumed on the free ends, such as free contour, radial load, and rigid fastening. The nonuniformity of the temperature field with an arbitrary change along the radius and the functional dependence of the elastic modulus of the material  $E$ , the Poisson

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LESHCHENKO, V. M., et al., Problemy prochnosti, No. 5, May 72, pp 3-9

coefficient  $\mu$  and the coefficient of linear thermal expansion  $\alpha$  on temperature and the functional dependence of  $\mu$  on the degree of deformation of the material are taken into account. It is noted that differential equations describing the stress state of a shell are useful for an arbitrary meridian and values which vary in an arbitrary manner along the material (such as thickness, load, temperature, etc.), but that in this case there are the following limitations considering the use of the M-220 computer: (1) elementary shells can have only a rectilinear meridian or a meridian which is an arc of a circle. This does not prevent the calculation of shells with meridians of other forms, since any complex shell can be divided into parts representing elementary shells with meridians that are straight or defined along the arc of a circle. (2) The thickness of the elementary shell must follow a linear law of change along the meridian. The quantities  $E$ ,  $\mu$  and  $\alpha$  characterizing the properties of the material are put into the machine in the form of tables and intermediate points are determined by linear interpolation. A comparison of the calculated data based on this method of solving elastic-plastic problems and the results of destructive acceleration tests under nonuniform heating conditions supports the condition of breakdown for low-plastic materials based on the theory of greatest normal stresses.

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USSR

UDC: 582.4616-001.4

KAMISHKO, O. P., LESHCHENKO, V. M., and BALYASNIKOV, V. I., All Union Institute of Plant Protection, Leningrad, and Central Dermato-Venerological Institute, Moscow, and Leningrad Scientific Research Institute of Antibiotics

"Mycoflora Wound"

Leningrad, Mikologiya i Fitopatologiya, Vol 4, No 6, 1970, pp 523-524

**Abstract:** A patient was observed who had an ulcer of the skin for 20 years following a traumatic injury. Aspergillus clavatus, A. niger, Penicillium chrysogenum, Scopulariopsis brevicaulis, and Rhizopus sp. were isolated from the ulcer and the bandages. The cultures of all of these species except Rhizopus sp. had a strong proteolytic activity, completely liquifying gelatin within 7 days at 24°C. Local application of fungicides expedited healing of the ulcerous wound. The lasting presence of fungi in the wound in this case and in similar cases cannot be explained by saprophytism on dead tissue; one must assume that the fungi bring about death of living cells through the action of enzymes, toxins, and other substances and that they thus function as parasites. Fungi may become adapted to parasitism

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USSR

KAMYSHKO, O. P., et al, Mikrologiya i Fitopatologiya, Vol 4, No 4, 1970, pp 523-521.

of this sort and should then be regarded as infectious agents. Therapeutic measures for the treatment of slowly healing wounds should be devised on the basis of a consideration of the composition of mycoflora present in them.

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1/2 022 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--SIMULTANEOUS EXISTENCE OF SEVERAL MYCOSES IN PATIENTS WITH ITSENKO  
KUSHING'S SYNDROME -U-  
AUTHOR--(03)-SHEKLAKOV, N.D., LESHCHENKO, V.M., DADELMOVA, V.G.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK DERMATOLOGII I VENEROLOGII, 1970, NR. 6, PP. 41-45

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--SKIN DISEASE, FUNGUS, DISEASE, CHEMOTHERAPY, ADRENAL GLAND,  
PITUITARY GLAND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/1379 STEP NO--UR/0206/70/007/005/0041/0045

CIRC ACCESSION NO--A0013331

2/2 - 022

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0133331

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. REPORTS FROM LITERATURE AND THE AUTHORS' OWN OBSERVATIONS OF 2 PATIENTS WITH SEVERAL MYCOSES CONCURRENT WITH ITSENKO-KISHING'S SYNDROME ARE PRESENTED. IN ONE PATIENT GENERALIZED AFFECTION OF THE SKIN AND THE SCALP WAS CAUSED BY TRICHOPHYTON VIOLACEUM, OF DEEP LAYERS OF THE DERMIS (ABSCESSES), BY CANDIDA ALBICANS, AND OF NAILS, BUT TRICHOPHYTON RUBRUM. IN THE OTHER A SIMILAR PROCESS HAS CAUSED BY TRICHOPHYTON VIOLACEUM AND TRICHOPHYTON RUBRUM. THE SUCCESS IN THERAPY WAS ACHIEVED BY COMBINATION OF ANTIMYCOTIC DRUGS WITH TREATMENT OF DYSFUNCTION OF THE PITUITARY ADRENAL COMPLEX. FACILITY: TSENTRAL'NYY NAUCHNO-ISSLED. KOZHNO-VENEROLOGICHESKIY MZ SSSR I KLINICHESKAYA BOL'NITSA IM. V. G. KOROLENKO, MOSKVA.

REF ID: A651676

Absorption

USSR

UDC 547.58

IENSHENKO, V. P., KUPRIENKO, O. N., and PEPERENKO, G. A., Kiev

Technological Institute of Food Industry

"Cation Exchange in Dioxane-Water Solutions on Weakly Acidic Cation-Exchange Resin KF-4P"

Kiev, Ukrainskiy Khimicheskiy Zhurnal, Vol. 31, No. 2, Feb. 1977, pp. 1007-1011

**Abstract:** A statistical method was used to study the exchange of  $\text{Li}^+$ ,  $\text{Cs}^+$  and  $\text{Ca}^{2+}$  ions on a carboxyl cation-exchange resin KF-4P in dioxane-water solutions. The  $\text{Li}^+ \leftrightarrow \text{Ca}^{2+}$  exchange is accompanied by an increase in the selectivity coefficient with increasing concentration of dioxane, while, in the case of the  $\text{K}^+ \leftrightarrow \text{Li}^+$  and  $\text{K}^+ \leftrightarrow \text{Cs}^{2+}$  exchange, the coefficient is reversed. The distribution of the exchanging ions between the weak-acidic cation KF-4P phase in  $\text{K}^+$  form and the phase of external solution is affected by the solvation of the resin's salt form in dioxane-water mixtures; this effect reaches a maximum when the concentration of dioxane in the mixture is 50%.

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1/2 007

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--SWELLING OF STRONGLY ACID KU<sub>1</sub>I AND WEAKLY ACID KB<sub>4</sub>P<sub>2</sub> CATION  
EXCHANGERS IN DIOXANE WATER MIXTURES -U-

AUTHOR-(02)-LESHCHENKO, V.P., KURILENKO, D.D.

COUNTRY OF INFO--USSR

SOURCE--UKR. KHIM. ZH. 1970, 36(1), 46-8

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CATION EXCHANGE RESIN, DIOXANE, WATER, ABSORPTION/(U)KU<sub>1</sub> ION  
EXCHANGE RESIN, (U)KB<sub>4</sub>P<sub>2</sub> ION EXCHANGE RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1616

STEP NO--UR/0073/70/036/001/0346/0048

CIRC ACCESSION NO--APO125238

UNCLASSIFIED

2/2 007

CIRC ACCESSION NO--AP0125238

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ABSORPTION OF DIOXANE BY THE H AND FE PRIME POSITIVE, Li PRIME POSITIVE, K PRIME POSITIVE, Cu PRIME2 POSITIVE, KB,4P2 FRUM DIOXANE, H SUB2 O MIXTS. OF VARIOUS CONCN'S. WAS DEDD. THE SKELLING VARIED WITH THE CATION AND RESIN, AND WAS MAX. FOR A 50PERCENT SOLN. OF ALL THE FORMS OF KU, I AND FOR A 75PERCENT SOLN. OF KB,4P2. AT THIS CCNCN., THERE WAS NO PREFERENTIAL ABSORPTION OF DIOXANE.  
FACILITY: KIEV. TEKHNL. INST. PISHCH. PROM., KIEV, USSR.

UNCLASSIFIED

USSR

UDC 621.396.6-181.48

MORALEY, S. A., TABARNYY, V. G., MOLCHANOV, A. A., LESHCHEJKO, TU. I., and LOG-VINENKO, N. P.

"A System for the Machine Design of BIS (Large Scale Integrated Circuits) Based on MOS-Transistors"

Elektron. prom-st'. Nauchn-tekh. sb. (Electronics Industry. Collected Scientific-Technical Articles), 1972, No 2, pp 44-49 (from RZh-Radiotekhnika, No 11, Nov 72, Abstract No 11 B225)

Translation: The proposed machine design system makes it possible to automate the basic stages of the design and development of MOS type, large integrated circuits. This includes the following: from the statement of the technical specifications in the form of functional circuits with an inventory of the circuit-technical and technological limitations to the representation of the topology of the microcircuit in the form of a geometric drawing, along with the corresponding code on perforated tape. The information recorded on the perforated tape is used for the automated production of photopatterns. Resume.

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USSR

UDC 539.697

LESHCHEV, V. I., GOLOBURDIN, A. I.

"Study of Conditions for the Pneumatic Transportation of Pulverized Rubber"

V. sb. Materialy II Vses. konf. "Mekh. sypuch. materialov" (Materials of the Second All-Union Conference "Mechanics of Friable Materials" -- Collection of Works), Odessa, 1971, pp 57-58 (from RZh-Mekhanika, № 3, Mar 72, Abstract No 3B349)

Translation: Studies of the possibility of pneumatic transportation of synthetic rubber pulverized by crushing are described. Polydisperse rubber powder with a particle size from 0.25 to 5.0 mm and monofractional rubber powder were transported. Experiments were conducted in two ducts of diameter 50 and 100 mm at concentrations from 5.0 to 9.0 kg/kg and at a rate of from 4000 to 6000 kg/hr. The basic parameters of the motion of the mixture were established, particularly the dependence of air flow in the efficiency of the device on concentration. The possibility of stable transportation of fractionated rubber was proved on the basis of the experiments and data were obtained necessary for calculating pneumatic transportation devices.

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L/2 020

UNCLASSIFIED

PROCESSING DATE--27NOV70

TITLE--CODIMERIZATION OF ETHYLENE WITH PROPYLENE UNDER THE INFLUENCE OF  
ZIEGLER CATALYTIC SYSTEMS -U-  
AUTHOR--(03)-FELDBLYUM, V.SH., LESHCHEVA, A.I., PETRUSHANSKAYA, N.V.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHM. 1970, 6(5), 1113-14

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ETHYLENE, PROPYLENE, COPOLYMERIZATION, DIMERIZATION, CATALYST,  
ALUMINUM CHLORIDE, ORGANOALUMINUM COMPOUND, ISOPRENE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1277

STEP NO--UR/0366/70/006/005/1113/1114

CIRC ACCESSION NO--APC134951

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0134951

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PASSAGE OF 1,1 ETHYLENE PROPYLENE MIXT. AT 25DEGREES THROUGH A SOLN. CONTG. ISO-BU SUB2 ALCL, NI OLEATE, AND PH SUB3 P CR ISO-PR SUB3 IN PHME GAVE 43.0-44.5PERCENT C SUBS OF INDUSTRIAL USE FOR THE PREPN. OF ISOPRENE. WHEN THE CATALYST SOLN. CONTAINED ONLY ISO-BU SUB2 ALCL AND NI OLEATE, THE MAIN C SUBS FRACTION MONOMER. SIN. KAUCH., YAROSLAVL, USSR.

FACILITY: NIAUCH.-ISSLED. INST.

UNCLASSIFIED

1/2 007

UNCLASSIFIED

PROCESSING DATE--02 OCT 70

TITLE--OLIGOMERIZATION OF ETHYLENE UNDER THE INFLUENCE OF A  
DIISOBUTYLALUMINUM CHLORIDE NICKEL CHLORIDE CATALYTIC SYSTEM -U-

AUTHOR--(03)-FELDSLYUM, V.SH., LESHCHEVA, A.I., OBESENHALOVA, N.V.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(2), 213-18

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ETHYLENE, ALUMINUM CHLORIDE, ORGAN ALUMINUM COMPOUND,  
HEPTANE, BENZENE DERIVATIVE, BUTANE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/0212

STEP NO--UR/0366/70/005/002/0213/0218

CIRC ACCESSION NO--AP0113151

UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0113151

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE REACTION WAS CARRIED OUT BY BUBBLING ETHYLENE (I) UNDER ATM. PRESSURE THRU A MIXT. OF 150-80 SUB2 ALCL IN N-HEPTANE AND NI OLEATE IN TERT BUTYL SUB6 H SUB4 ME. THE CONVERSION OF I WAS SMALLER THAN OR EQUAL TO 89PERCENT AT SIMILAR TO 30DEGREES AND LOWER AT OTHER TEMPS. THE CONVERSION OF I INCREASED WITH AL-NI RATIO, BUT IT REMAINED APPROX. CONST. AFTER 4:6 RATIO WAS REACHED.

THE PRESENCE OF LARGER THAN 4 VOL. PERCENT O IN I DECREASED THE CONVERSION. CHANGING THE TEMP., AL-NI RATIO, OXYGEN CONTENT, AND THE RATE OF I FLOW VARIED THE SELECTIVITY OF THE MAIN PRODUCTS FORMATION SMALLER THAN OR EQUAL TO 100PERCENT FOR BUTENES (MOSTLY 2-BUTENE) AND SMALLER THAN OR EQUAL TO 60PERCENT FOR HEXENES (MOSTLY 3,METHYL,2,PENTENE).

REF ID: A6520

USSR

UDC 547.13

NESMEYANOV, A. N., Academician, POSTNOV, V. N., LESHCHEVA, I. E., SUNKOV,  
B. A., and SAZONOVA, V. A., Moscow State University imeni M. V. Lomonosov

"Ferrocenylvinylcarbonium Ions"

Moscow, Doklady Akademii Nauk SSSR, Vol 200, No 4, 1971, pp 858-861

**Abstract:** The vinylog of the diphenylferrocenylcarbonium ion during its formation undergoes an allyl shift to give an  $\alpha$ -ferrocenylcarbonium ion. Since the p-dimethylamino group is a strong carbonium ion stabilizer, the authors undertook to compare the part played by the p-dimethylaminophenyl and ferrocenyl groups simultaneously in the stabilization of the allyl cation. The tetraphenylborate of the vinylog of p-dimethylaminodiphenylferrocenyl-carbonium was obtained from  $\beta$ -ferrocenylvinyl-p-dimethylaminodiphenyl-carbinol by precipitation with sodium tetraphenylborate in glacial acetic acid. The salt was bound by its  $\alpha$ -carbon atom (relative to ferrocene) with dimethylaniline in the p-position. To determine the structure of the resultant carbonium ion, spectra were taken of its salts -- tetraphenylborate and borofluoride, as well as the spectrum of  $\beta$ -ferrocenylvinyl-p-dimethylaminodiphenylcarbinol. The results indicate that the allyl cation reacts 1/2

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USSR

NESMEYANOV, A. N., et al., Doklady Akademii Nauk SSSR, Vol 200, No 4, 1971,  
pp 858-861

like a typical  $\alpha$ -ferrocenylcarbonium ion with its  $\alpha$ -carbon atom. This indicates localization of a significant part of the formed positive charge on the latter. The almost quantitative reaction on the  $\alpha$ -carbon indicates the prevailing influence of the ferrocenyl group in the stabilization of the carbonium ion as compared with the p-dimethylamino group.

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"APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R002201730007-9

172 020

TITLE--NUCLEAR MAGNETIC RESONANCE SPECTRA OF ARENECYCLOPENTADIENYLIRON  
COMPOUNDS -U-  
AUTHOR-(OSI)-NESMEYANOV, A.N., LESHCHEVA, I.F., USTYNYUK, YU.A., SIROTKINA,  
E.I., BOLESOVA, I.N.  
COUNTRY OF INFO--USSR

UNCLASSIFIED

PROCESSING DATE--27NOV70

SOURCE--J. ORGANOMETAL. CHEM. 1970, 22(3), 689-96  
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--NMR SPECTRUM, IRON COMPOUND, CYCLIC GROUP, COMPLEX COMPOUND,  
ORGANIC PHOSPHATE, FLUORINE ISOTOPE, ELECTRON ACCEPTOR

CONTROL MARK/IG--NO RESTRICTIONS

DOCUMENT CLAS--UNCLASSIFIED

PROXY REEL/FRAME--2000/2130

CIRC ACCESSION NO--AP0125714

STEP NO--NE/0000/T0/022/003/0689/0696

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R002201730007-9"

2/2 020

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--APO125714

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PMR SPECTRA OF ARENECYCLOPENTADIENYLIRON COMPOS. (XPNHFC SUBS H SUB5) PRIME POSITIVE PF SUB6 PRIME NEGATIVE, (RHO, XC SUB6 H SUB4 FEC SUB5 H SUB5) PRIME POSITIVE PF SUB6 PRIME NEGATIVE, (C SUB6 H SUB6 FEC SUB5 H SUB4 X) PRIME POSITIVE PF SUB6 PRIME NEGATIVE GONTG, VARIOUS SUBSTITUENTS X HAVE BEEN STUDIED. PMR CHEM. SHIFTS HAVE BEEN CORRELATED WITH THE SETS OF THE HAMMETT-TAFT SIGMA PARAMETERS. THE RESULTS ARE COMPARED WITH THOSE OBTAINED FOR THE NON COORDINATED ARENES OR WITH EMLIER DATA. HEXAFLUOROPHOSPHATES OF RHO OR M<sub>n</sub> FLUORODIPHENYLCYCLOPENTADIENYL IRON HAVE BEEN PREPD. AND THEIR PRIME<sup>19</sup> F NMR SPECTRA ARE USED TO DET. SIGMA SUB1 AND SIGMA SUBR PRIMEO OF THE PH RING IN (C SUB5 H SUB5 FEC SUB6 H SUB6) PRIME POSITIVE PF SUB6 PRIME NEGATIVE WHICH DIFFERS FROM THE UNCOORDINATED PH IN THAT IT IS A STRONG ELECTRON ACCEPTOR.

FACILITY: INST. ORG.-ELEM. COMPO., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 669.018.298-426

LESHCHIKOV, A. M., ZHUCHIN, V. N., DZUGUTOV, M. YA., KORNEYEV, N. I., and OVSEPYAN, V. G., Elektrostal' Plant and the All-Union Scientific Research Institute of Aviation Materials

"Crack Removal in the Production of Wire Made From Precipitation Hardened Alloys"  
Moscow, Stal', No 7, Jul 73, pp 652-654

**Abstract:** The processes of formation and nature of cracks were studied in a nickel-base alloy EP578 with the following chemical composition (in %): 18-20 Cr, 9-10.5 W, 2.75-3.25 Ti, 1.3-1.8 Al, 5.5-6.5 Co and 0.05 C (max). Deep longitudinal cracks (up to 2 mm in 5-mm diameter wire) along the entire wire length are sometimes formed. Investigation showed that this was linked with the occurrence of structural transformations during heating and, in particular, with precipitation of the gamma-prime type strengthening phase Ni<sub>3</sub>(Ti,Al). Crack formation was also possible in the presence of surface defects and high residual tensile stresses. The first factor can be eliminated by rapid heating (at a rate not less than 250-300 deg/sec for suppression of aging), and the second factor -- by means of burnishing cold-drawn wire prior to its recrystallization, owing to which residual surface stresses become compressive stresses. Experiments also showed that cracks are formed in less-

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LESHCHINER, A. M., et al., Stal', No 7, Jul 73, pp 652-654

alloyed materials such as nickel-base alloys EP567 and NIMO-25 (66-69% Ni) with the following chemical composition:

	Cr	W	Mo	C	Si	Mn	Fe
EP567	14.5-16.5	3.0-4.5	15.0-17.0	0.03*	0.15*	1.0*	1.5*
NIMO-25	---	---	25.0-28.0	0.035*	0.25*	0.5*	balance

\*-maximum

Precipitation of dispersed phases does not occur during heating of these alloys but proceeds by an ordering process. Thus, one of the necessary conditions of crack formation is the presence of structural transformations during heating. Four figures, four bibliographic references.

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UR 9003

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TITLE-- ANNOUNCEMENT OF THE COMMITTEE ON THE LENIN AND STATE PRIZES

NEWSPAPER-- IZVESTIYA, FEBRUARY 18, 1970, P 3, COLS 1-5

ABSTRACT-- THE COMMITTEE ON THE LENIN AND STATE PRIZES HAS ANNOUNCED THE NAMES OF RESEARCHERS ADMITTED TO THE 1970 LENIN PRIZE COMPETITIONS. THE LIST INCLUDES G. V. NOVOZHILOV, V. A. KUTEPOV, V. I. SMIRNOV, D. V. LESHCHINER, V. M. SHEYNIN, AND A. A. OVCHAROV FOR THEIR "DEVELOPMENT OF THE INTERCONTINENTAL PASSENGER AIRLINER IL-62", AND A. S. YAKOVLEV, YE. G. ADLER, M. G. BENDERSKIY, K. M. VALIK, AND K. S. KIL'DISHEVA FOR "JET PASSENGER AIRLINER YAK-40 POWERED BY THREE AI-25 ENGINES".

BOTH CANDIDATES WERE NOMINATED BY THE MINISTRY OF AVIATION INDUSTRY.

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Thermomechanical Treatment

USSR

UDC 669.721.621.789-977

RYABININA, R. M., and LESHCHINER, L. N.

"High-Temperature Mechanical and Thermal Treatment of the AK6 Alloy"

Moscow, Metallovedeniye, No 5, May 70, pp 62-64

Abstract: Extruded rods (composition in %, 0.51 Mg, 1.03 Si, 2.87 Cu, 0.56 Mn, and 0.45 Fe) were deformed by upsetting blanks on a 1-ton drop press after heating to  $505 \pm 15^{\circ}\text{C}$ . The formed races were not preheated. The magnitude of deformation was calculated as the decrease in height of the blank and amounted to 10, 20, 30, 40, and 50%. The heated blanks were water quenched for 20-25 seconds after being taken from the furnace. Standard samples were cut from the blanks with a 70-mm-diameter and 80-mm length. These samples were aged at  $165^{\circ}\text{C}$  for 30-40 minutes, quenched, and then aged for 1, 4, 8, 12, and 16 hours. Hardness and electrical conductivity were measured after aging, along with testing the mechanical properties of longitudinal and transverse samples. All the samples showed increased conductivity, reduced degree of elongation, and a higher yield strength/tensile strength ratio at the longer aging times.

The combination of hot plastic deformation and high-temperature thermomechanical treatment (HTTM) of the AK6 alloy increased the strength properties of the alloy by approximately 5-6% (for deformation degrees of 10-30%) without lowering 1/2

USSR

RYABININA, R. M. and LESHCHINER, L. N., Metallovedeniye, No 5, May 70, pp 62-64

elongation. Prevention of solid solution decomposition during the HTIM of the AK6 alloy can be done by heating to a maximum temperature of 520-525°C. The process of HTIM decreases the depth of recrystallization in the races, thereby yielding a more uniform crystalline structure.

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USSR

UDC 577.155.02:576.851

LESHCHINSKAYA, I. B., BALABAN, N. P., and TANYASHIN, V. I., Kazan' State University

"Splitting of the Pyr-3'-P-5'-Pur Bond in DNA by Some Bacterial DNases"

Moscow, Mikrobiologiya, No 5, 1971, pp 806-808

**Abstract:** Analysis of the substrate specificity of *Bacillus mesentericus* 19 K and *Bacillus subtilis* 13K DNases, *Serratia marcescens* BU-211 ATCC-9986 nuclease, and pancreatic DNase showed that all of these enzymes are capable of splitting the Pyr-3'-P-5'-Pur bond in DNA but in different degrees. Pancreatic DNase hydrolyzed 1.5 to 2% of this phosphodiester bond, *Bac. mesentericus* DNase 4 to 5%, *Bac. subtilis* DNase 6.5 to 7%, and *Ser. marcescens* nuclease 8.0 to 8.5%. The degree of hydrolysis of the other types of DNA bonds by these enzymes (Pur-3'-P-5'-Pir, Pur-3'-P-5'-Pur, Pir-3"-P-5"-Pir) also varied - 9, 21.3, 24.0, and 34.7%, respectively.

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UDC 576.8.098:577.155.2

USSR

BELYAYEVA, M. I., LESHCHINSKAYA, I. B., and TYRYGINA, G. I., Kazan State University  
"The Nucleotide Composition of Nucleic Acids and Nucleodepolymerase Specificity  
in Microorganisms"

Moscow, Mikrobiologiya, No 6, pp 980-983

Abstract: Study of the nucleotide composition of DNA in various bacterial species and strains (*P. denitrificans*, *S. marcescens* 41K, *S. marcescens* 41, *B. amylozyma* 9a, *B. glutinosus* 7 E, *B. mesentericus* 19K, *M. pyogenes* 42E, and *B. subtilis* 13K) showed that DNA nucleotide composition is directly related to DNases specific for the DNA bases. For example, *Micrococcus pyogenes* with respect to DNA belongs to the extreme AT type, with the coefficient of specificity 2.18. The DNase of this species has AT specificity. The two *Serratia marcescens* strains have the C type of DNA, a coefficient of specificity of 0.71-0.73, and DNase with preferential guanine specificity. The comparative uniformity of the nucleotide composition of RNA in the strains under study seems to be responsible for the similarity of the substrate specificity of their RNases.

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UDC;621.791.92.052.001.5:669.15-194:62-418

USSR

PAVLOV, I. V., LESHCHINSKIY, L. K., VASILENKO, A. I., Zhdanov Metallurgical Institute  
"Peculiarities of the Structure of the Fusion Zone Produced During Surfacing with a Thin Austenitic Strip on Type 45 Steel"

Moscow, Svarochnoye Proizvodstvo, No 12, Dec 73, pp 33-55

**Abstract:** This work studies the possibility of acting on the structure and properties of the transition zone produced during surfacing of type 45 steel with a thin austenitic strip by changing the shape and dimensions of the electrode, with a low content of alloying elements in the electrode. The decrease in the participation of the base metal in the built-up surface metal characteristic for thin electrode strips (0.1-0.2 mm thick) allows a surfaced metal to be produced with higher austenite reserve which, in turn, can produce a narrower martensite layer between the base metal and the surfaced metal. Reduction of the temperature of the tail portion of the bath achieved by the use of a thin electrode strip allows the base-metal inclusions in the surfaced metal to be retained primarily unmelted.

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UDC 621.791.008.1

USSR

LESHCHINSKIY, L. K., and OLDAKOVSKIY, A. I.

"Progressive Methods of Welding and Surfacing in Ferrous Metallurgy and Machine Building" (Scientific and Technical Conference on Welding)

Kiev, Avtomaticheskaya Svarka, No 10, Oct 72, pp 77-78

Abstract: The All-Union Scientific and Technical Conference on "Progressive Methods of Welding and Surfacing in Ferrous Metallurgy and Machine Building" was held in Zhdanov on 27-30 July 1972. Three sections were involved in the conference: Theoretical Problems and New Welding Methods, Welding Metallurgy and Technology, and Modern Methods of Surfacing and New Surfacing Materials. More than 60 papers and reports were given.

The following reports or descriptions of papers were highlighted:

1. BAGRYANSKIY, K. V., Doctor of Engineering Sciences, Zhdanov Metallurgical Institute--"Calculation of the Heat Effect Examining in the Passage of Strip Electrodes".
2. DYURGEROV, N. G., Candidate of Engineering Sciences, (NISKEM)--problem of jet transfer of metal when welding with a consumable electrode in gas shields.
3. URYUMOV, V. YA., and VASILENKO, A. I., Candidates of Engineering Sciences (ZhdMI)--calculation method of determining chemical composition of the seam metal when welding under ceramic fluxes.

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USSR

LESHCHINSKIY, L. K., and OLDAKOVSKIY, A. I., Avtomaticheskaya Svarka, No 10,  
Oct 72, pp 77-78

4. LESHCHINSKIY, L. K., Candidate of Engineering Sciences and PAVLOV, I. V. (ZhdMI), BESKHLEBNYY, V. A., et al, Voroshilovgrud Machine Building Institute--The effect of consumable electrode shape on the composition and properties of a surfaced metal and on the features of the alloying process.
5. TARASOV, V. V. (ZhdMI)--Investigation of the chemical heterogeneity in coarse-grain wear-resistant surfacing in a transverse magnetic field.
6. LESHCHINSKIY, L. K., Candidate of Engineering Sciences--determination of electrode heating in the passage with a molten slag.
7. ROYANOV, V. A., Candidate of Engineering Sciences, and VOITSEKHOVSKIY, YE. V. (ZhdMI)--Investigations of alloying processes in the surfacing layer during arc metallizing.
8. SHEYHMAN, YE. L. (TashIZhT)--features of multi-electrode electric arc and electroslag horizontal surfacing.
9. KAL'YANOV, V. N., and BRAYLOVSKIY, O. B., Candidates of Engineering Sciences (ZhdMI), P'YANOV, V. V. (Kommunarsk Metallurgical Plant), KASSOV, D. S., et al (Kramatorsk Industrial Institute)--New compositions of alloys for wear-resistant surfacing and development of surfacing materials.

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LESHCHINSKIY, L. K. and OLEAKOVSKIY, A. I., Avtomaticheskaya Svarka, No 10,  
Oct 72, pp 77-78

10. KRYZHANOVSKIY, A. S. (ENIKMash)--optimization of the cobalt content in a surfaced metal.
11. KHARCHENKO, V. M. (Leninogorsk Polymetals Combine)--surfacing of mining, beneficiating, and metallurgical equipment parts.
12. SHLYKOV, N. Ye. (Kommunarsk Metallurgical Plant)--analysis of the economic feasibility of using surfacing in the repair of metallurgical equipment.
13. GUBENKO, V. A. (NIIPTMash)--Development of technology and equipment for plasma-arc surfacing with the use of granulated powders.
14. PAVLOV, I. V. (ZhdMI)--development of a ceramic flux for corrosion-resistant surfacing of ship shafts with thin austenitic electrode strip.
15. YERSHOV, S. A. and ZHUKOV, A. B. (ZhdMI)--Features of coarse-grain surfacing of aluminum bronze onto steel under a ceramic flux.
16. KURATOV, V. V., and FAL'KOV, A. I. (Kurgan Machine Building Institute)--process of surfacing with a three-phase arc.
17. KHEYFETS, A. L. (ChPI)--properties of a metal surface in an air flow.
18. POPOV, YU. V., and IVANOV, V. V. (VTU)--experimental data from an investigation of the features of vacuum welding using arc discharge with a hollow cathode.

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USSR

LESHCHINSKIY, L. K., and OLDAKOVSKIY, A. I., Avtomaticheskaya Svarka, No 10,  
Oct 72, pp 77-78

19. DMITRIYEV, V. V., Candidate of Engineering Sciences, et al (ZhdMI)--  
technology and equipment as well as the properties of high-speed  
steels, vacuum surfaced on a multi-blade tool.
20. LYUBAVSKIY, K. V., and KHODAKOV, V. D., Doctor of Engineering  
Sciences (TsNIITMash)--vacuum-arc surfacing with a vaporizing cathode  
of power armature parts.
21. LAZARSON, E. V. (Perm Polytechnic Institute)--processes of gas  
absorption and liberation in the weld bath and pore formation in  
the seam metal.
22. GOL'TSOVA, V. P. (Voronezh)--"Laser Welding of Conductor Microconnec-  
tions"
23. MALYUKOV, A. F., Candidate of Engineering Sciences, et al (Perm  
Polytechnic Institute)--"Thermomechanical Treatment of joints suit-  
able for processes of contact welding of hardenable steels".
24. SERENKO, A. N., Candidate of Engineering Sciences, et al (ZhdMI)--  
"Determining the Stress State of Weld Joints".
25. SMIRNOV, B. A., Candidate of Engineering Sciences, et al., (VNIIMon-  
tazhspetsstroy)--use of powder filler metal in electroslag welding.

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USSR

LESHCHINSKIY, L. K. and OLDAKOVSKIY, A. I., Avtomaticheskaya Svarka, No 10,  
Oct 72, pp 77-78

26. TSAREVSKIY, V. Z. (VNIIIFT khimnefteapparatury)--use of induction heating for the normalization of electroslag-welded seams.
27. SOTNIK, I. S. (UkrNIIMET)--effect of protective coatings for rolling on the mechanical properties and degree of surface metal saturation by gases and nonmetallic inclusions.
28. SHONO, S. A. (NIIPTMash), ANTONETS, D. P., Candidate of Engineering Sciences, and SAVCHENKO, A. I. (ZhdMI)--Technological features of welding thick steels in CO<sub>2</sub> and the effect of oxygen added to the CO<sub>2</sub> on the technological characteristics of the welding process.
29. SURZHIKOV, A. S., and FIL'CHAKOV, A. A. (ZhdMI) and PANASENKO (Voroshilovgrad Machine Building Institute)--development of carbonate-fluorite coated electrodes.
30. KORNEYEVYY, A. D., and ZUSNNYY, V. YA. (ZhdMI)--Means of overcoming the difficulties of welding high-purity aluminum.
31. MOCHALOVA, L. N.--Corrosion resistance of nickel and nickel alloy weld joints in different corrosive media.
32. PASHISHKAVICEYUS, I. I. (Vil'nyus Engineering Construction Institute)  
"Modeling the Voltage Between Welding Electrodes".

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\* USSR

LESHCHINSKIY, L. K. and OLDAKOVSKIY, A. I., Avtomaticheskaya Sverka, No 10,  
Oct 72, pp 77-78

33. KABANOV, N. G. (VNIIMETMash)--problems of improving the welding of ferrous metal strip in continuous metallurgical units.
34. GOL'TSOV, V. A.--Work conducted at MEI on the electron-beam welding of low-alloy, thick (90-110 mm) steels and thin-wall pipe.
35. SAVCHENKOV, V. A., Candidate of Engineering Sciences, et al. (UkrNIIMet)--results of a study of the properties of weld joints when the seam is alloyed with small amounts of niobium.
36. RUBENCHIK, YU. I., Candidate of Engineering Sciences, et al (VNIITkhimnefteapparatury)--welding and surfacing of clad steels in chemical machine building.
37. KOTEL'NIKOV, D. I., Candidate of Engineering Sciences, et al (Chernigov Affiliate of KPI)--Technology of Welding borosilicate glass with metal.

6/6

- 8 -

L/3 020  
TITLE--PSYCHOLOGICAL SEASONING, A FIELD TRAINING ELEMENT -U-  
UNCLASSIFIED  
PROCESSING DATE--04 DEC 70

AUTHOR--LESHCHINSKIY, P.

COUNTRY OF INFO--USSR

SOURCE--VOYENNYY VESTNIK NO. 3, 1970, PP 96-99

DATE PUBLISHED-----70

SUBJECT AREAS--MILITARY SCIENCES, BEHAVIORAL AND SOCIAL SCIENCES  
TOPIC TAGS--MILITARY TRAINING, CBR WARFARE, PSYCHOLOGIC WARFARE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY FICHE NO---FD70/605010/803 STEP NO--UR/0013/70/000/003/0096/0099

CIRC ACCESSION NO--AP0140108  
UNCLASSIFIED

2/3 020

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--APO140108

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PAST WARS HAVE SHOWN THAT SURPRISE USE BY ONE COMBATANT OF A NEW AND PREVIOUSLY UNKNOWN TYPE OF WEAPON HAS PERMITTED INFILCTING CONSIDERABLE LOSSES ON THE ENEMY, DEMORALIZING AND SOMETIMES COMPLETELY ROUTING HIM. THIS WAS THE CASE WHEN FIRST USE WAS MADE OF TOXIC CHEMICAL AGENTS, LARGE MASSES OF TANKS, AVIATION, ROCKET ARTILLERY, AND NAPALM. ENEMY EMPLOYMENT OF NUCLEAR, CHEMICAL, AND BIOLOGICAL WEAPONS CAN HAVE AN EVEN STRONGER PSYCHOLOGICAL EFFECT OF PEOPLE. TO COUNTERACT THIS WE NEED NOT ONLY MILITARY MASTERY, BUT HIGH MORAL COMBAT QUALITIES AS WELL. IT IS VERY IMPORTANT EVEN NOT TO TRAIN A SOLDIER TO WEAR INDIVIDUAL PROTECTIVE GEAR FOR A LONG PERIOD OF TIME, TO SKILLFULLY OPERATE IN CENTERS OF NUCLEAR, CHEMICAL, AND NAPALM STRIKES, AND TO SUCCESSFULLY CARRY OUT TASKS AS PART OF CREWS AND TEAMS.

THOSE OFFICERS ACT PROPERLY WHO, WHEN YOUNGER REPLACEMENTS ARRIVE, DEVOTE MORE ATTENTION TO FIELD TRAINING AND BRING EVERY EXERCISE AS CLOSE AS POSSIBLE TO ACTUAL COMBAT CONDITIONS. FOR EXAMPLE, IN THE PODRAZDELENIYA COMMANDED BY OFFICERS G. MILOVIDOV AND A. SAMOLYUKH NOT ONE MOVE INTO THE FIELD PASSES WITHOUT PRACTICE OF MEASURES FOR PROTECTION AGAINST WEAPONS OF MASS DESTRUCTION AND INCENDIARIES. IN ALL SPECIAL EXERCISES AND DRILLS THE OFFICERS ATTEMPT NOT ONLY TO INSTILL IN SOLDIERS THE REQUISITE KNOWLEDGE AND SKILLS, BUT TO STRENGTHEN THEIR WILL AND INSPIRE SELF CONTROL, ENDURANCE, AND THE DESIRE TO ACHIEVE SUCCESS IN ANY SITUATION. WE CREATED A GOOD FACILITY FOR TRAINING IN PROTECTION AGAINST WEAPONS OF MASS DESTRUCTION.

TOP SECRET//ASSISTED

3/3 020

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0140108

ABSTRACT/EXTRACT--IN USING IT, PODRAZDELENIYE COMMANDERS HOLD CLASSES AND EXERCISES IN SUCH A WAY AS NOT ONLY TO IMPROVE COMBAT TRAINING, BUT ALSO TO RAISE THE SOLDIERS' MORAL PSYCHOLOGICAL SEASONING. IN ORDER TO BETTER ACCOMPLISH THESE TASKS WE MUST INTRODUCE ELEMENTS OF MODERN COMBAT INTO TRAINING IN A BOLDER MANNER.

USSR

UDC: 577.4

LESHCHINSKIY, V. A.

"Analysis of Systems With the Use of Descriptions by Regular Expressions in the Algebra of Structures"

Kiev, Probl. kibernetiki--sbornik (Problems of Cybernetics--collection of works), 1971, pp 85-95 (from RZh-Kibernetika, No 10, Oct 72, abstract No 10V398)

[No abstract]

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USSR

UDC: 51:621.391

LESHCHINSKIY, V. A.

"Algebraic Transformations of Systems"

Kiev, Prom. kibernetika--sbornik (Industrial Cybernetics--collection of works), 1971, pp 110-114 (from RZh-Kibernetika, No 10, Oct 72, abstract No 10V591)

[No abstract]

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USSR

UDC: 51.621.391

LESHCHINSKIY, V. A.

"On One Approach to Systems Analysis. Part II"

v sb. Tekhn. kibernetika. Vyp. 14 (Technical Cybernetics--collection of works. No 14), Kiev, 1970, pp 23-32 (from RZh-Kibernetika, No 9, Sep 71, Abstract No 9V403)

Translation: For part I see RZh-Mat, 1971, 8V789. The author considers methods of constructing fundamental descriptions of systems through the representation of their structures by finite abstract automata, as well as methods of determining certain properties of systems directly from their descriptions.

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USSR

UDC 624.131.43+539.21.084-492.3

LESHCHINSKIY, V. M., LUPINSKIY, M. I., OKUNEVSKIY, L. N.

"Experimental Study of the Joint Operation of Fastenings of Concrete Plates and Soils of the Surface of a Slope Under Wave Action"

Tr. Khar'kov. otd. vod. kh-va prom-predpriyatiy VNII VODNHO (Works of the Khar'kov Department of Water Economy of Industrial Enterprises of the All-Union Scientific Research Institute of Water Supply, Sewer Systems, Hydraulic Engineering Structures and Engineering Hydrogeology), 1971, No. 9, pp 48-57 (from RZh-Mekhanika, No 3, Mar 72, Abstract No 3V903)

Translation: Experimental studies of the deformations of fastening plates and the surface of soil slopes under the plates are described. The studies were conducted in laboratory molds at a height of the slopes of up to 1.25 m with sectional plates 0.8 × 0.8 × 0.06 m and a monolithic plate 5.0 × 1.5 × 0.06 m for three forms of soil and various densities of the soil, and also in the presence of reverse filters of various thickness and granular composition. The purpose of the study was to evaluate the process of forced interaction of the fastening in the soil of the bank under shock (brief) rise in pressure from

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LNUK

LESHCHINSKIY, V. M., et al, Tr. Khar'kov. otd. vod. kh-va prom.-predpriyatii  
VNII VODGEO, 1971, No. 9, pp 48-57

a breaking of waves. This action was simulated by shock loads caused by a dropping load. The authors emphasize that the intensity of the tremors (acceleration of vibrations) of the plates and ground reproduced in the experiments in the zone of impact corresponded to the intensity of tremors under the action of waves of a certain (calculated) height measured in nature. The forms of the deformations of the plates and earth slopes are given. The displacements of the plates and soils as a function of thickness in the form of the fastening plates, and the magnitude of the displacements as functions of the initial density of the soil and the thickness of the filter preparation, etc. are discussed. P. D. Yefdokimov.

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USSR

BRESLAV, E., Deputy Chief Psychiatrist, City Health Division, LISIPEKOVA,  
L., Chief Doctor, Psychoneurological Hospital imeni Academician I. P. Pavlov,  
and KOPYLOVA, I., Chief, Narcology Department No 5, Candidate of Medical  
Sciences

"They Work While They are Being Treated"

Moscow, Meditsinskaya Gazeta, 18 Oct 72, p 2

Translation: In Leningrad there is a network of medical establishments engaged in treating alcoholics. In all the rayon psychoneurological dispensaries of the city, narcology offices have been established where anyone who wishes can receive advice and consultation, and where necessary, go through out-patient therapy. In those cases where out-patient therapy is ineffective, patients are sent to a permanent hospital.

There is a narcology department at one of the city's psychiatric hospitals. There is a similar department at a suburban psychiatric hospital, although there they treat alcohol victims with marked personality degradation.

The administration of internal affairs system has a therapeutic labor "profilaktoriy" [medical establishment where patients are released for work during the day], where patients are sent on a compulsory basis.

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USSR

BRESLAV, E., Meditsinskaya Gazeta, 18 Oct 72, p 2

We consider therapy without being taken away from production to be most rational. It is well-known that during the time they are in a psychiatric hospital, patients develop dependent attitudes and the capital they accumulate during the time of free treatment may serve as a stimulus to abuse alcohol after they are discharged from the hospital.

The development of an aversion to alcohol is based on the conditioned reflex mechanism. Under the special "hothouse" conditions of the hospital, a less stable reflex is developed than in the dispensary and frequently, it is completely extinguished because the living conditions differ sharply from the hospital situation.

In addition, in economic terms, such therapy is expensive to the state. The cost of a bed-day in the psychiatric hospital where victims of alcoholism are situated fluctuates between 4 rubles and 5 rubles 60 kopecks.

All this forced us to think of new forms and methods of therapy in conditions approximating those of normal life with a full, regular labor load.

After familiarization with the work of the narcology department in the city of Podol'sk, Moscow Oblast, on the initiative of the Vampilostrovskiy Rayon Committee of the CPSU with active participation of the administration of the Sevkabel' Plant and rayon medical workers, an experimental

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USSR

BRESLAV, E., Meditsinskaya Gazeta, 18 Oct 72, p 2

department for treating victims of alcoholism on voluntary principles was organized at one of the industrial enterprises of the city. It has been working for 18 months, and is one of the departments of the psychoneurological hospital No 7 imeni Academician I. P. Pavlov.

The Sevkabel' Plant allocated and prepared quarters, while staffs, medical equipment, food and treatment were secured through public health funds. The plant personnel division registers all persons entering treatment as temporary employees, and they receive wages according to the wage scale, on the same basis of primary plant workers. Parts of their earnings are deducted to a special hospital account and are expended to subsidize the department. Persons who have been treated receive 30% of the amount earned upon discharge. A special shop was not singled out for the labor therapy, those undergoing treatment were put into the brigades and shifts of different shops at the plant.

This helped to instill a feeling of comradeship in those in the department, an awareness of their responsibility, the significance and importance of their labor, and a certain worker's pride in the enterprise which had become "their own." The best indicator of this is the fact that of the 290 people who went through therapy during the year, 32 stayed on to work at the Sevkabel' Plant.

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USSR

BRESLAV, E., Meditsinskaya Gazeta, 18 Oct 72, p 2

We would like to take note of the great deal of work done by party and trade union organizations of the enterprise with plant workers. They explained the importance of the task assigned and asked that those undergoing treatment be met with good will in the collective and helped to overcome their grave illness.

In order to make the therapy effective, the time spent in the department was extended to 3-3.5 months. This was dictated by characteristics of production and the necessity of combining labor and anti-alcohol therapy over a prolonged period.

The primary difficulty for the collective of medical workers was the fact that therapy had to be conducted for both the morning and evening shifts of workers. The collective was able to handle this problem. Armed with all the methods of psychotherapy, psychoprophylactics, and psychhygiene in the broad sense of these concepts, personnel were able to organize the patients into a disciplined collective, using "small group" procedures and other types of collective and group psychotherapy.

A council of patients has been established in the department and works actively, and the patients are partially on self-service. The first steps have been taken to organize a club for those who have been discharged from the dispensary but continue to maintain contact with the collective and personnel who helped them rid themselves of this grave vice which turned

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USSR

BRESLAV, E., Meditsinskaya Gazeta, 18 Oct 72, p 2

into an illness.

After therapy in permanent psychiatric hospital No 5, the rate of recidivism was 35%, while after outpatient treatment at the dispensary it was 24%.

Of course, it should be taken into account that outpatient is given to persons in the early stages of alcoholism, with still incipient social degradation. The work of such departments involves a number of difficulties. For example, patients sent to the department are entered on temporary work at another industrial enterprise without being discharged from their primary place of work, and after therapy they ordinarily return to their old enterprise. Now, in connection with the abolition of hospital records for persons being treated for alcoholism, the question arises, how can we preserve continuity of time in service? The matter of wages is not clear either. After all, only 30% of the wages are paid to the patients or their relatives, and the rest of the money is transferred to the special hospital account. It is evident that with the abolition of hospital records, certain changes should be made in the system of wages.

But as for the fact that the creation of such departments is a realistic way to combat alcoholism, we have no doubt.

5/5

UDC 641.502.2

USSR

GASANOV, L.S., LESHEVYCH, A.S., PETROVSKIY, V.I.

"Study Of Voltage-Capacitance Characteristics Of Amorphous Structures Based On  
Glassy Semiconductors"

*Elektron.technika. Nauch.-tekhn.sb. Mikroelektronika* (Electronics Technology).  
Scientific-Technical Collection. Microelectronics), 1971, No 5(29), pp 51-54  
(from RZh:Elektronika i vysye primeneniya, No 2, Feb 72, Abstract No 70164)

Translation: The low-signal capacitance is experimentally investigated of  
amorphous structures based on chalcogenide glass of the systems As-Si-Ge,  
Si-Te, Ge-Te, and some glassy semiconductors of type  $A_2B_2C_2'$ . It is revealed  
that during stresses, the capacitance of such structures becomes negative.  
A strong dependence is shown of the negative capacitance on the temperature  
and the frequency of the signal measured. Summary.

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LESHKEVICH A.I.

AA0052663

UR 04B2

Soviet Inventions Illustrated, Section III Mechanical and General,  
Derwent, 2-76

| 244184 TIMBER ROLLING MECHANISM comprises a  
| chassis and a grab with a compound pulley  
| for covering the grab. There are also log grabs  
| for tractors and hoists which are used for rolling  
| timber into water. In order to retain efficiently  
| the bundles of timber during the movement of the  
| mechanism over uneven surfaces, the movable blocks  
(4) of the pulley system are fixed in the lower  
jaw (2) of the grab, whilst the end of the rod of  
the pulley system is fixed on the upper jaw (3) of  
the grab which is connected to the chassis by a rod  
(8) regulated according to length. By means of the  
compound pulleys of the grab the bundle of timber  
is compressed by the jaws of the mechanism and is  
retained by them during transportation. The  
mechanism can be coupled to any hauling tractor.

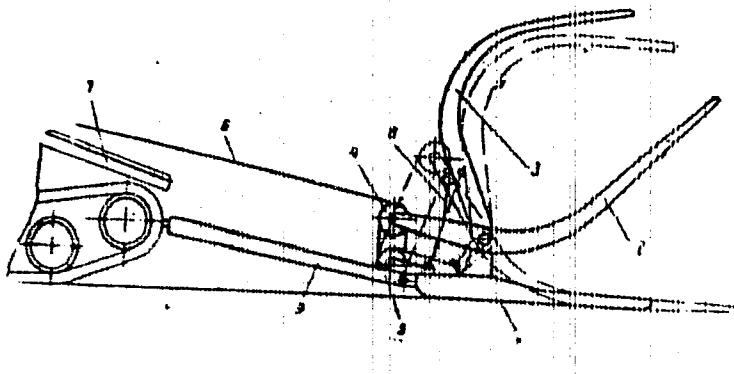
29.12.67. as 1206439/29-33, LESHKEVICH, A.I. et al.  
Timber Ind. Mech. & Energetics Res. & Design Inst.  
(8.10.69) Bul. 17/14-5.69. Class 81e, Int. Cl.  
B 65g.

18

19821411

AA0052663

Leshkevich, A.I.; Levitskiy, Ya.Ye.; Reutov, Yu.M.; Baurin, I.P.;  
Korolev, V.Ye.; Tsentral'nyy Nauchno-Issledovatel'skiy Proyektno-  
Konstruktorskiy Institut Mekhanizatsiy i Energetiki Lesnoy Promyshlennosti



19821412

UDC 612.744

USSR

KRASNOVA, A. F., LENKOVA, R. I., LESHKEVICH, L. G., MAKSYMOWA, L. V.,  
CHAGOVETS, N. R., and YAKOVLEV, N. N., Sector of Biochemistry, Leningrad  
Institute of Physical Training, Leningrad

"Characteristics of Energy Metabolism in Muscular Activity in Relation to  
the Degree of Adaptation of the Organism to This Activity"

Leningrad, Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenova, Vol 58, No 1,  
Jan 72, pp 114-121

Abstract: A study conducted on more than 250 athletes of various degree of  
experience and training indicated that with increasing adaptation of the or-  
ganism to intensive muscular activity there was an increase in the level of  
sugar and lactate in the blood at which reinforced mobilization and utiliz-  
ation of fatty acids in connection with muscular effort could take place. As  
a result a more effective supply of the working muscles with energy sources  
was ensured and the ATP balance was disturbed to a lesser extent. This  
constituted a factor that increased the working capacity.

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Acc. Nr: AP0044843

Ref. Code: UR 0531

PRIMARY SOURCE: Khirurgiya, 1970, Nr 1 , pp 57-58

VENOTONOMETRY OF DEEP VEINS OF THE LOWER  
EXTREMITIES.

Lesin, B. M.

The technique of venotonometry in different positions of the patient, as well as with compression of superficial veins with tourniquet on three levels enables to evaluate the state of the venous hemodynamics and affection of deep veins of the lower extremities. The rate of rise of the venous pressure in contraction of abdominal muscles and transition of the patient from the horizontal position into a vertical one may serve as a diagnostic test pointing to functional disturbances of deep veins of the lower limbs.

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REEL/FRAME

19771698

USSR

UDC: 681.327.11

DENNOVETSkiY, S. V., LESKIN, V. F., MEDVEDENKO, B. I., SIELENOV, G. F.,  
SIGORSkiY, V. P., TSYGANOK, B. A., PETRENKO, A. I., Kiev "Order of Lenin"  
Polytechnical Institute imeni the Fiftieth Anniversary of the Great October  
Socialist Revolution

"A Device for Mapping Information"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Novyye Znaki,  
No 10, Apr 72, Author's Certificate No 332455, Division G, filed 22 May 70,  
published 14 Mar 72, p 193

Translation: This Author's Certificate introduces a device for mapping information. The device contains a cathode ray tube with deflecting system, and amplifiers. As a distinguishing feature of the patent, the clarity and contrast of the reproduction are improved by adding a deflecting micro-coil placed in the throat of the CRT and connected through a shaper amplifier to the output of the video amplifier.

1/1

1/2 008

UNCLASSIFIED

PROCESSING DATE--30 OCT 70

TITLE--SYNTHESIS OF BRANCHED SUGARS WITH OLEFIN BONDING -U-

AUTHOR-(04)-ZHDANOV, YU.A., UZLOVA, L.A., LESKINA, L.P., GAVRILENKO, O.A.

COUNTRY OF INFO--USSR

SOURCE--Zh. OBSHCH. KHM. 1970, 40(3), 666-9

DATE PUBLISHED----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SACCHARIDE, CHEMICAL SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/2001

STEP NO--UR/0079/70/0407003/0666/0649

CIRC ACCESSION NO--AP0121396

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--30 OCT 70

2/2 008  
 CIRC ACCESSION NO--AP0127396  
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. KETO-L-SORBOSE PENTHAACETATE (I)  
 AND PH SUB3 P:CHAC HEATED 20 HR IN C SUB6 H SUB6 GAVE  
 4,ACETOXYMETHYL,5,6,7,8,TETRA-O-ACETYL,3,4,DIDEHYDRO,L,3<sup>14</sup>C,  
 TRIDEOXY-L-XYLO-OCTULOSE, A SYRUP. SIMILAR REACTION WITH PH SUB3 P:CHBZ  
 GAVE 3,ACETOXYMETHYL,4,5,6,7,TETRA-O-ACETYL,1,C,PHENYL,  
 2,3,DIDEHYDRO,2,3,DIDEOXY-L-XYLO-HEPTULOSE, A SYRUP, ( $\alpha$ )-PRIME20  
 SUB3 MINUS 10.8DEGREES. SIMILARLY WAS PREPD. ITS 1,6-P-ANISYL ANALOG  
 (II), A SYRUP, ( $\alpha$ )-PRIME20 SUB3 MINUS 14.7DEGREES  
 2,4,DINITROPHENYLHYDRAZONE H. 171-3DEGREES. I AND PHHHNH SUB2 HEATED 1  
 HR IN ACOH GAVE 71PERCENT 3,P-ANISYL,  
 1,PHENYL,5,(L-XYLO,1,2,3,4,TETRAACETOXYBUTYL),2-PYRAZULINE, A SYRUP.  
 HEATING KETO-L-SORBOSE WITH PH SUB3 P:CHCO SUB2 ME IN CHCL SUB3 17 HR  
 GAVE 21PERCENT ME 3,ACETOXYMETHYL,4,5,6,7,TETRA-O-ACETYL,  
 2,3,TRIDEOXY,2,3,DIDEHYDRO-L-XYLO-HEPTONATE, SYRUP, ( $\alpha$ )-PRIME20 SUB3  
 MINUS 12.2DEGREES. 2,3,4,5,O-1-ISOPROPYLIDENE-ALDEHYDO-L-ARABINOSE AND  
 PH SUB2 P:C(CO SUB2 ME)CH SUB2 CO SUB2 ME HEATED 5 HR IN CHCL SUB3  
 YIELDED 73PERCENT ME  
 2,3,4,TRIDEOXY,3,4,DIDEHYDRO,5,6,7,8,DI-O-1-ISOPROPYLIDENE,(3<sup>14</sup>C),  
 METHOXCARBCNYL-L-ARABINO-OCTONONATE, SYRUP, ( $\alpha$ )-PRIME19 SUB3 MINUS  
 8.6DEGREES. FACILITY: ROSTOV-NA-DONU GOS. UNIV.  
 ROSTOV-CN-DCN, USSR.

UNCLASSIFIED

Acc. Nr:

AP0048290Abstracting Service:  
CHEMICAL ABST. 5/70Ref. Code:  
*4180472*

✓ 94015v Heterogeneity of deformation and texture during the rolling of crystals. Belousova, N. S.; Borodkina, M. M.; Leskov, B. A.; Matorn, V. I. (USSR). *Fiz. Khim. Obrab. Material.* 1970, (1), 133-9 (Russ.). Flat specimens were cut from a Fe + 45% Ni single crystal obtained by the Czochralski method. In cold-rolling, crystals with a (110)[112] orientation remain stable up to 91% deformation. The surface layer exhibits a small deviation from an ideal orientation. Scattering is small. The (110)[110] orientation is unstable. It passes, in rolling, into an (112)[111] + (112)[111] orientation with a high scattering and a high heterogeneity in depth. GBJR

*.E/B**1**18*REEL/FRAME  
15/792012

USSR

UDC 621.791.754:669.71:bby.571.51-51

YUSUFVA, Z. A., Engineer and LEVKOV, G. I., Doctor of Technical Sciences

"On the Mechanism of Oxide Film Destruction in Welding Aluminum Alloys in a Medium of Inert Gases"

Moscow, a Medium of Svarochnoye Proizvodstvo, No 7, Jul 70, pp 57-59

Abstract: Studies were made of the mechanism of oxide film destruction in direct current of different polarity arcs and in arc alternating current in argon and helium. It was previously established that cathode sputtering does not eliminate more than 2.6% of the film and does not play a significant role in the mechanism of its destruction by the welding arc. Test procedures are briefly described. It was observed that a d-c arc of normal polarity in Ar causes a growth in oxide film thickness, while in welding in helium, with a d-c arc of normal polarity (anode spot), a band is formed which is clear of oxide film. Thus, for the destruction of  $\text{Al}_2\text{O}_3$  film the existence of a cathode spot film. It was also observed that the arc in He causing the sputtering of  $\text{Al}_2\text{O}_3$  film in the zone of the anode spot is characterized by a higher voltage between electrodes (16 v at normal polarity, 23 v at negative polarity) than the arc in Ar (11 v at normal polarity, 18 v at negative polarity).

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USSR

YUSUPOVA, Z. A., et al, a Medium of Svarochnye Proizvodstvo, No 7, Jul 70,  
pp 57-58

This points to the possibility of film destruction by an energy flow of sufficient density. It is concluded that a thermal effect is the most probable mechanism of oxide film destruction. A specific power of  $11 \times 10^4 < p < 15 \times 10^4 \text{ w/cm}^2$  is necessary to accomplish it. This power is transmitted to the arc anode spots in He and to the arc cathode spots in other gases and also to the arc active spots. 1 figure, 4 references.

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U39R

UDC 530.95653B.4

SAMARSKIY, A. A., Corresponding Member of the Academy of Sciences USSR,  
KURDYUMOV, S. SP., KULIKOV, YU. N., LESNOV, L. V., POPOV, YU. P., SAVICHEV,  
V. V., and FILIPPOV, S. S., Institute of Applied Mathematics, Academy of  
Sciences USSR, Moscow

"Magnetohydrodynamic Model of Unsteady Plasma Acceleration"

Moscow, Doklady Akademii Nauk SSSR, Vol 206, No 2, 1972, pp 307-310

**Abstract:** During an experimental study of pulsed plasma accelerators, some physical phenomena were discovered which cannot be explained within the framework of existing simplified models: viz., the existence of a laminated structure for the ejected plasma formation, motion counter to the accelerating ampere force, the presence of high-multiplicity ions in the plasma, heating up of the plasma to high temperatures in narrow sections, etc. Therefore, the authors undertook to calculate the dynamics of plasma formations in pulsed accelerators, with allowance for the spatial distribution of the physical characteristics of the plasma, radiation, and nonlinear effects in the plasma. As a result of computer-aided calculations, density, velocity, temperature,

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USSR

SAMARSKIY, A. A., et al., Doklady Akademii Nauk SSSR, Vol 206, No 2, 1972, pp 307-310

current, and the magnetic field along the direction of motion were determined. It is shown that there are nonlinear mechanisms leading to the appearance of heated current layers (T-layers) in the medium, separated by intervals of relatively cold gas. The T-layers evolve and generate shock waves which propagate on both sides, and this leads in turn to the production of new T-layers, the formation of plasma clusters and their interaction, the return motion of the substance, and the appearance of closed current loops in the plasma. A study is made of the energy balance in the accelerator and the time redistribution of individual forms of energy.

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2/2

UDC: 620.10

USSR

CUBAREV, V. Ya., Engineer, KOZLOV, N. P., Candidate of Technical Sciences, Pro-Docent, LESKOV, L. V., Doctor of Physical and Mathematical Sciences, Professor, PROTASOV, Yu. S., Graduate Student, Moscow Higher Technical Academy imeni N. E. Bauman

"On Measurement of Small Deflections"

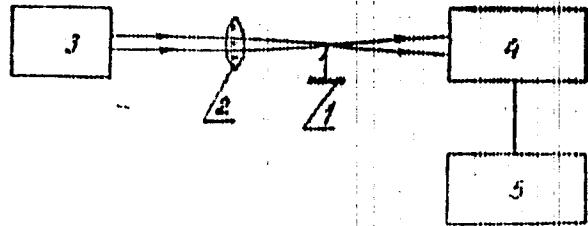
Moscow, Izv. VUZov: Mashinostroyeniye, No 9, 1972, pp 190-191

Abstract: The paper describes a procedure and experimental equipment for measuring displacements of the order of  $10^{-3}$  mm at frequencies of the order of hundreds of kHz. The measurement installation is based on the Töpler schlieren method as illustrated in the diagram. Sharp-edged plate 1 is securely fastened to the article at the point to be measured in the plane of deflection. Lens 2 focuses a beam from gas laser 3 onto the sharp edge of this plate. The light beam is then allowed to fall on the cathode of photomultiplier 4 whose output signal is registered by oscilloscope or digital recorder 5.

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USSR

GUBAREV, V. Ya. et al., Izv. VUZov: Mashinostroyeniye, No 9, 1972, pp  
190-191



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USSR

UDC 681.142.644.3

(3)

ADERIKHIN, V. P., GOLIKOVA, T. G., KUZ'MICHEV, V. I., LANTSMAN, B. I.,  
LESKOV, V. G., RUDAKOV, A. N., and SOBOLEVA, E. I.

"A Device for Calculating a Partial Derivative"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki,  
No 12, Apr 72, Author's Certificate No 334574, Division 6, filed 22 Dec 70,  
published 30 Mar 72, p 184

Translation: This Author's Certificate introduces a device for calculating a partial derivative. The device contains a servo system for the independent variable and a servo system for the differentiable function which are based on integrators. The inputs of the integrators are connected through corresponding switches to the outputs of the corresponding scalers. The device also contains a comparator with a reference voltage source connected to one of its inputs. As a distinguishing feature of the patent, computing precision is improved by adding a delay line, logic devices, a memory unit, and an additional switch. The output of the scaler in the independent-variable servo system is connected to the first input of the logic device and to the second input of the comparator. The output of the comparator is connected to the controlling input of the additional switch. This switch

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USSR

ADERIKHIN, V. P., et al., Otkrytiya, Izobreteniya, Prenovshennyye Obratnye, Tovarnyye Znaki, No 12, Apr 72, Author's Certificate No 334574, Division G, filed 22 Dec 70, published 30 Mar 72, p 184

connects the output of the scaler in the function servo system to the second input of the logic device, and through a delay line to the controlling inputs of the servo system switches. The memory unit is connected to the output of the logic device.

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USSR

UDC 62-55

KOZLOV, Yu. M., LESKOV, V. G., SHPAKOV, V. M.

"An Adaptive Linear System"

USSR Author's Certificate No 308417, filed 11 Aug 69, published 2 Aug 71  
(from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 7,  
Jul 72, Abstract No 7A167 P)

Translation: This Author's Certificate introduces an adaptive automatic linear control system with stability-boundary output. The system contains a main loop and an adaptive loop whose output is connected to the input of the main loop unit with the parameter to be varied, while the input of the adaptive loop is connected to the output of the main loop of the system. To improve the accuracy and stability of the system when the parameters of the main loop vary over a wide range, the adaptive loop is made in the form of a series circuit comprised of a first filter, a frequency doubler, a second filter, and a phase shifter.

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USSR

UDC 62-531.4

ZAKIROV, A.S., KORELOV, I.V., LANTSMAN, B.I., LESKOV, V.G.

"Electromechanical Tracking System"

USSR Author's Certificate No 263715, Filed 4/02/69, Published 15/06/70  
(Translated from Referativnyy Zhurnal Avtomatika, Telemechanika i Vychislitel'naya Tekhnika, No 12, 1970, Abstract No 12 A278P)

Translation: An electromechanical tracking system is suggested, containing an amplifier, motor with reducing gear, tachometer generator, angle sensor, and load. The system is distinguished by the fact that in order to increase the accuracy, it also contains an angle sensor connected to the input of the amplifier, an electromagnetic switching clutch connecting the load axis either to the main angle sensor or to the supplementary sensor, and a commutator, the normally closed contact of which is connected into the circuit connecting the point of addition of the input signal and the feedback signal from the main angle sensor to the input of the amplifier, while the normally open contact is connected in the power supply circuit of the electromagnetic clutch winding.

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UDC 621.394.67:624.97(088.6)

USSR

GENZE, B. G., KUTMIN, I. F., LESKOV, V. P.

"Telescopic Mast"

USSR Author's Certificate No 251026, Filed 26 Jan 68, Published 11 Feb 70  
(from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9383P)

Translation: The proposed mast contains blocking locks and a cable lift mechanism. The trunk of the mast is made of several sections inserted one in the other and moved by a cable. The blocking locks contain a lever which turns on a rod installed in the lower part of the movable sections. On winding the cable on a drum, the lower movable section begins to move out of the stationary (support) section. Each next moving section moves out only after the preceding section reaches its upper position and its lever is deflected toward the opening and frees the stem located inside the section. The lever deflected to the opening is stopped by a moving sleeve which moves out under the effect of a spring. As the sections move out, preliminary guying of them takes place. Final tension is put on the guys by retaining. The sections are lowered in the opposite sequence by winding the cable on a drum. The mast has improved reliability of setting of the sections. There are three illustrations.

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USSR

PASTUKHOV, V. M., LOBOV, V. I., LUTCHENKOV, A. M., CHUMAKOV, Ye. A., SIYANOV, S.A.,  
SHEKHODANOV, M. P., LESKOVSKAYA, N. P., Scientific Research Institute of Technology  
and Production Organization"

L UDX: 621.3.049.75:774

"A Device for Combining Solid Circuits or Semiconductor Devices with Phototemplates"  
Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tsvarynye Znaki, № 3,  
1970, pp 51-52, patent No 259975, filed 19 Nov 66

Abstract: This Author's Certificate introduces a device for combining solid circuits or semiconductor devices with phototemplates and exposing the resultant combination. The device contains a table for combining the solid-state circuit with the phototemplate, an illuminator, power supply, control unit and enclosure. As a distinguishing feature of the patent, precision of registration is improved by fitting the combining table with a hemispherical suction device fastened on a rotating column and connected through a piston rod, movable sleeve, cylinder, support bracket and moving carriage in prismatic guides to a fixed plate to which the phototemplate is fastened.

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UDC: 669.14.

USSR

MAKAROVA, V. I., VELISHCHANSKIY, A. V., LESHKOVTSEVA, I. G.

"Influence of Heat Treatment and Cold Plastic Deformation on Temperature Frequency Factor of Longitudinal Oscillations of Type 44NKhTYu Alloy"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Mashinostroyeniye, No 9, 1973, pp 136-139.

**Abstract:** This work presents a study of the influence of heat treatment and cold plastic deformation on the component of the thermoelastic factor determined by the chemical composition of the basic solid solution. The influence of aging modes and degree of cold plastic deformation on the temperature factor of resonant frequency of longitudinal oscillations in 44NKhTyu alloy was studied in the presence of a magnetic field near the saturation field. It was established that cold plastic deformation with over 50% compression and subsequent aging at temperatures up to 650° C increases the value of the temperature frequency factor. Changes in the heat treatment mode and degree of cold plastic deformation result in changes of the frequency factor within limits of  $10 \times 10^{-6} 1/^\circ\text{C}$  in the presence of a strong magnetic field.

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USSR

LESHKOVITSEVA, I. I. and CHERENISINOV, N. A., Forestry Laboratory, Academy of Sciences USSR

"Effect of Rust Fungi on Plant Physiology in Forest Biogeocenoses"

Leningrad, Mikologiya i Fitopatologiya, No 6, 1972, p 292

Abstract: The effect of rust fungi on the structure and physiological properties of chlorophyllose tissue of leaves was studied in 9 tree, shrub, and grass species in Moscow Oblast. An average of 55% (maximum 64%) of the individual plant species was found to be infected with rust. Total chlorophyll a and b in the heavily infected leaves was 35 to 59% less than in healthy ones. The decrease in chlorophyll content was associated with destruction of the chloroplasts. Chloroplasts in the affected cells were sometimes half as large as in the healthy cells. Moreover, diseased tissues had fewer chloroplasts than healthy tissues. These changes undoubtedly affect the intensity of photosynthesis in a forest biogeocenosis.

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UDC 621.396.2:621.371.1

USSR

LESMAN, M. Ya., PERKOV, V. V., YAKOVLEV, L. A.

"Wideband Communications System with Phase Modulation Invariant with Respect to  
the Doppler Effect"

Materialy nauchno-tehn. konferentsii. Leningr. elektrotekhn. in-t svyazi. vyp. 2  
(Materials of the Scientific and Technical Conference. Leningrad Electrotechnical Communications Institute, vyp. 2), Leningrad, 1970, pp 55-59 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8A299)

Translation: This article contains an investigation of the principles of constructing an FM wideband communication system which is invariant with respect to the Doppler effect. The expected characteristics of the system are discussed, a brief description of a model of the system and the results of laboratory testing of it are presented.

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1/2 014 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--ALKYLATION OF BENZENE BY N-OCTENES IN THE PRESENCE OF ETHYLALUMINUM  
DICHLORIDE AND A COMPLEX OF BORON FLUORIDE WITH POLYPHOSPHORIC ACID -U-  
AUTHOR-(03)-LESMENT, T., LIIV, T., KORV, M.

COUNTRY OF INFO--USSR

SOURCE--ESTI NSV TEAD. AKAD. TIOM., KEEM., GEOL. 1970, 19(1), 46-51

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CATALYST, ALKYLATION, BENZENE, ORGANOALUMINUM COMPOUND,  
CHLORINATED ORGANIC COMPOUND, BENZENE DERIVATIVE, OCTANE, ISOMERIZATION,  
CHEMICAL REACTION RATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1993/0707

STEP NO--UR/0470/70/019/001/0046/0051

CIRC ACCESSION NO--AP0113571  
UNCLASSIFIED

2/2 014  
UNCLASSIFIED  
PROCESSING DATE--23 OCT 70  
CIRC ACCESSION NO--AP0113571  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. REACTANT AND CATALYST RATIOS AND  
REACTION TIME DURING ALKYLATION OF C SUB6 H SUB6 BY 1-OCTENE (I) AT  
20DEGREES WERE STUDIED. ADDING 1 DROPWISE TO C SUB6 H SUB6 ON ETALCL  
SUB2 DURING 10 MIN. AND STIRRING THE RESULTING MIXT. 10 MIN GAVE  
100PERCENT CONVERSION I: 64.6PERCENT 2,PHENYLOCTANE (II), 24PERCENT  
3,PHENYLOCTANE (III), AND 11.4PERCENT 4,PHENYLOCTANE (IV). WHEN PART OF  
THE C SUB6 H SUB6 WAS RESERVED FOR ADDN. WITH I TO THE CATALYST, A  
DECREASE IN THE OLEFIN C SUB6 H SUB6 RATIO FROM 1:2 TO 1:16 DID NOT  
AFFECT THE ISOMERIC PRODUCT COMPN., BUT AN INCREASE TO 1:0.5-1 REDUCED  
THE RELATIVE YIELD OF II. WHEN BF SUB3 POLYPHOSPHORIC ACID WAS USED AS  
CATALYST, THE ISOMERIZING EFFECT WAS STRONGER, AND THE RELATIVE YIELD OF  
DIPHENYLOCTANES WAS RAISED APPRECIABLY, AND THE MAX. PHENYLOCTANE YIELD  
(60.4PERCENT) CORRESPONDING TO A II-III-IV RATIO OF 35:36.2:28.8 HAS  
OBTAINED AT A CATALYST OLEFIN RATIO OF 0.724:1.94, A REACTION TIME OF  
240 MIN, AND 95.6PERCENT I CONVERSION. WHEN 4-OCTENE (VI) WAS  
SUBSTITUTED FOR I, THE BF SUB3 POLYPHOSPHORIC ACID CATALYST OLEFIN RATIO  
WAS 2.84:5.24, AND VI CONVERSION WAS 84.8PERCENT AT THE END OF 20 MIN;  
THE II-III-IV RATIO WAS 27.5:39.7:32.8 AND THE MONOPHENYLOCTANE YIELD  
WAS 63.5PERCENT.  
FACILITY: INST. KHM., TALLIN, USSR.

UNCLASSIFIED

UDC 669.018.4:536.2:621.762.4

USSR

SAMSONOV, G. V., BOGOMOL, I. V., L'VOV, S. N., and LESNAYA, M. F., Institute of Problems of Material Science, Academy of Sciences UkrSSR, Institute of Physics of Metals, Academy of Sciences UkrSSR

"Thermal Conductivity of Cermets Containing Titanium Carbide"

Kiev, Poroshkovaya Metallurgiya, No 11 (119), Nov 72, pp 62-65

**Abstract:** A study was made of the thermal conductivity of cermets of the systems TiC-Nb, TiC-Ta, TiC-Mo, and TiC-W, containing 25, 50, and 75 at% metal, within the 20-1100°C temperature range. The thermal conductivity was measured on hot-pressed specimens according to a previously described method [Porosh Novaya Metallurgiya, No 9, 89, 1966]. Temperature and concentration dependences of thermal conductivity of the cermets are shown. A considerable drop was established for the thermal conductivity coefficient of the cermets in comparison with introduced metals. A relative increase of the thermal conductivity coefficient is shown to take place at a constant temperature in a number of the investigated compositions. Two figures, one table, seven bibliographic references.

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UDC 669.013.4:537-311.621.762.4

USSR

SAMSONOV, G. V., BOGOMOL, I. V., L'VOV, S. N., and LESNAYA, Institute of  
Problems of Material Science, Academy of Sciences Ukr SSR and the Kherson  
Pedagogical Institute

"Electrophysical Properties of TiC-Nb, TiC-Ta, TiC-Mo, and TiC-W Cermets"

Kiev, Poroshkovaya Metallurgiya, No 10, Oct 72, pp 62-67

Abstract: The temperature function of specific electrical resistance  $\rho$  and coefficient of thermal emf  $\alpha$  of TiC-Nb, TiC-Ta, TiC-Mo, and TiC-W cermets, with a varying content of cementizing metal, was investigated at 20-1100°C. The Hall coefficient  $R$  was also measured at room temperature. Cermet samples were made by sintering, plus hot extrusion at 2000-2500°C at a pressure of 300 kg/cm<sup>2</sup> for 10-15 minutes. Extremes were observed in the concentration relationships at 50 at.% Nb(Ta) and 25 at.% Mo(W). The linear nature of the temperature function  $\rho = \rho(t)$ ,  $\alpha = \alpha(t)$  was shown for the investigated cermets, which testifies to the metallic character of their conductivity. The specific electrical resistance of TiC-Nb and TiC-Ta exceeds the resistance of the initial metals (Nb--16 and Ta--14.7 micro-ohm-cm) by 7-14 times and is 2-4 times greater than in TiC (53 micro-ohm-cm). In the TiC-Mo and TiC-W cermets the specific electrical resistance is an order higher than in the initial materials

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USSR

SAMSONOV, G. V., et al., Poroshkovaya Metalurgiya, No 10, Oct 78, pp 62-67  
and 1-3 times higher than in TiC, with the exception of compositions 25TiC-  
75Mo or 25TiC-75W, where the electrical resistance is somewhat less than in  
TiC. 3 figures, 1 table, 12 bibliographic references.

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## Devices

USSR

UDC: 621.391.8

LESNICHENKO, P. S., NISHCHEV, P. A., POTAPOV, Ye. P., KARABANOV, G. G.,  
DERIPALOV, B. D.

"A Device for Search of a Noise-Like Signal"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obrantsy, tovarnyye znaki,  
No 5, Feb 71, Author's Certificate No 293304, Division H, filed 11 Aug 69,  
published 15 Jan 71, p 180

Translation: This Author's Certificate introduces a device for search of a noise-like signal with respect to time delay in correction of a pseudorandom sequence oscillator with correlation detection indicator and search interval scan. As a distinguishing feature of the patent, search is accelerated by connecting the counters for reference signals and measurement of the time of accumulation of radio pulses to a coincidence circuit whose output is connected to an integrator, to a zero-reset circuit, and to the input of the stage for feeding in correction of the integration time and the pulse elimination circuit. The output of the pulse elimination circuit is connected to the pseudorandom signal oscillator. A cadence pulse generator is connected directly to the elimination circuit, and also to a slave counter through a diode which is connected to the threshold device of the detection indicator.

L72 022 UNCLASSIFIED PROCESSING DATE--30 OCT 70  
TITLE--CLINICAL EFFICACY OF THE HUNGARIAN SUGAR REDUCING PREPARATION,  
ADEBIT IN PATIENTS WITH DIABETES MELLITIS -U-  
AUTHOR--LESNICHIIY, A.V.

COUNTRY OF INFO--USSR

SOURCE--TERAPEVТИЧЕСКИЙ АРХИВ, 1970, VOL 42, NR 6, PP 86-87

DATE PUBLISHED--70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DIABETES MELLITUS, SUGAR METABOLISM, DRUG TREATMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3002/1921

STEP NO--UR/0504/70/042/006/0086/0087

CIRC ACCESSION NO--AP0129270  
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--300CT70

2/2 022  
CIRC ACCESSION NO--APO129270  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHOR STUDIED THE EFFICACY OF A NEW HUNGARIAN SUGAR REDUCING PREPARATION, ADEBIT IN 31 PATIENTS WITH DIABETES MELLITUS. 11 PATIENTS SHOWED RESISTANCE TO INSULIN AND TO THE PREPARATIONS OF SULPHANIL URINE. 20, SUFFERED FROM OBESITY OF THE I-II DEGREE. USE OF ADEBIT BROUGHT ABOUT MARKED IMPROVEMENT OF CARBOHYDRATE METABOLISM IN 29 PATIENTS. IN 11 PATIENTS INSULIN DOSES WERE REDUCED, IN 6, SULPHANIL URINE PREPARATIONS WERE SUSPENDED. IN 17 PATIENTS THERE WAS A WEIGHT REDUCTION BY 1-2.8 KG. ADEBIT TREATMENT PROVED USELESS IN 2 PATIENTS WITH LABILE DIABETES MELLITUS. A MORE EXPRESSED DROP OF PROTHROMBIN COEFFICIENT AND THE CONTENT OF TOTAL LIPIDS, AS WELL AS AMORE INCREASED CONTENT OF BLOOD SERUM ALBUMINS THAN IN 20 PATIENTS TREATED BY CONVENTIONAL METHODS WERE OBSERVED IN PATIENTS SUCCESSFULLY TREATED BY ADEBIT.  
FACILITY: SNEZHNYANSKAYA GORODSKAYA BOL'NITSA  
NR 1 DONETSKOY OBLASTI.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--THE EMPLOYMENT OF POTASSIUM OROTATE IN PATIENTS WITH DIABETES  
MELLITUS -U-  
AUTHOR--LESNICHY, A.V.

COUNTRY OF INFO--USSR

SOURCE--KLINICHESKAYA MEDITSINA, 1970, VOL 66, NR 5, PP 132-135

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--POTASSIUM COMPOUND, OROTIC ACID, DIABETES MELLITUS, LIVER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED STEP NO--UR/D497/70/048/005/0132/0134  
PROXY REEL/FRAME--3002/1764

CIRC ACCESSION NO--AP0129132 UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--APO129132

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT: THE AUTHOR STUDIED THE INFLUENCE OF POTASSIUM OROTATE ON SOME FUNCTIONAL INDICES OF THE LIVER IN PATIENTS SUFFERING FROM DIABETES MELLITUS. IN 30 PATIENTS IN WHOM THIS PREPARATION WAS USED IN A DAILY DOSE OF 500-750 MG FOR 20-38 DAYS THERE WAS NOTED A MARKED POSITIVE DYNAMICS IN THE CONTENT OF TOTAL LIPIDS AND TOTAL CHOLESTEROL IN THE BLOOD SERUM. THE RESULTS PROVED TO BE RELATIVELY STABLE IN 14 PERSONS. REPEATED EMPLOYMENT OF THE REFERRED TO PREPARATION 1 AND ONE HALF-2 MONTHS LATER YIELDED A FURTHER IMPROVEMENT OF THE INDICES. POTASSIUM OROTATE EXERTS NO NOTICEABLE EFFECT ON THE MORPHOLOGICAL PICTURE OF THE LIVER. FACILITY: SMIZHNYANSKAYA GORODSKAYA BOL'NITSA NOL DONETSKOY OBLASTI.

UNCLASSIFIED

1/2 030 UNCLASSIFIED PROCESSING DATE--11SEP70  
TITLE--ON THE STATE OF CARBOHYDRATE AND FAT LIPID METABOLISM IN PATIENTS  
WITH DERMATIC DISEASES -U-  
AUTHOR--SHEVCHENKO, I.V., LESNICHII, A.V.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK DERMATOLOGII I VENEROLOGII, 1970, NR 2, PP 28-30

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CARBOHYDRATE METABOLISM, LIPID METABOLISM, DERMATITIS, BIOCHEMISTRY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1985/1669

STEP NO--UR/0206/70/000100270028/0030

CIRC ACCESSION NO--APG191723

UNCLASSIFIED

2/2 030

UNCLASSIFIED

PROCESSING DATE--11 SEP 70

CIRC ACCESSION NO--AP0101723

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STATE OF CARBOHYDRATE AND FAT LIPOID METABOLISM WAS STUDIED IN 92 PATIENTS WITH DIFFERENT DERMATIC DISEASES (ECZEMA 34, PYODERMATITIS 36, DERMATOSIS 22) AND DISORDERS OF CARBOHYDRATE METABOLISM WERE DETECTED IN 68 PATIENTS. IN YOUNGER PATIENTS A GREAT INCREASE OF THE SUGAR LEVEL IN THE BLOOD WAS MORE FREQUENTLY OBSERVED AFTER ALIMENTARY SUGAR LOADING, WHILE IN PATIENTS OVER 50 YEARS OLD A PROLONGED SUGAR CURVE WAS FOUND. THESE DISORDERS WERE MORE MARKED IN PATIENTS WITH ECZEMA, PARTICULARLY IN CASES WITH A PROTRACTED COURSE. SUBSEQUENTLY 10 PATIENTS WERE FOUND TO HAVE DIABETES MELLITUS. IN ADDITION TO DISORDERS OF CARBOHYDRATE METABOLISM IN PATIENTS WITH DERMATIC DISEASES, DISTURBANCES OF FAT LIPOID METABOLISM WERE DETECTED, PARTICULARLY FREQUENTLY IN PATIENTS WITH PROTRACTED ECZEMA. MARKED CHANGES OF FAT LIPOID METABOLISM WERE OBSERVED ALMOST IN ALL CASES OF NEWLY DISCOVERED DIABETES MELLITUS AND THEY MAY BE CONSIDERED TO BE ONE OF EARLY MANIFESTATIONS OF THIS DISEASE.

USSR

UDC 539.216.2:539.1:539.4

LESNIK, A.G., and SANDLER, L. M., Institute of Metal Physics, Academy of Sciences Ukrainian SSR

"Investigation of Plastic Deformation of Thin Polycrystalline Permalloy Films"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol. 31, No. 6, Jun 71. no 1220-1974  
Abstract: The dependence of the elastic limit (yield point) of polycrystalline Permalloy films (thickness  $\sim$  1000 Å, grain size  $\sim$  250 Å) on temperature and rate of deformation and the dependence of the residual elastic grain deformation  $\epsilon_{res}$  on certain factors are investigated. The investigation results show that the plastic deformation of thin polycrystalline films proceeds, even at room temperatures, according to the mechanism of diffusion creep and is realized by means of boundary diffusion and slippage on the grain boundaries. The activation energy of the process, 27,500 cal/mol, proved to be very close to the activation energy of the boundary self-diffusion of Ni. The activation volume ( $7.1 \times 10^{-23} \text{ cm}^3$ ) was found to correspond to the volume of a single elementary grain. The derived data conform satisfactorily with the theory at  $\epsilon_{res} \lesssim 5 \times 10^{-5}$ . This conformity changes for the worse at  $\epsilon_{res} \gtrsim 5 \times 10^{-5}$ , the latter apparently being a result of disregarding the slippage on the grain boundaries. Five illustr., 13 formulas, 14 bibli. refs.

172 034 UNCLASSIFIED PROCESSING DATE--20NOV70  
TITLE--INDUCED ANISOTROPY IN COARSE GRAINED AND SINGLE CRYSTALLINE SAMPLES

-U-  
AUTHOR--LESNIK, A.G.

COUNTRY OF INFO--USSR

SOURCE--PHYSICA STATUS SOLIDI, 1970, VOL 39, NR 2, PP 403-407

DATE PUBLISHED----70

SUBJECT AREAS--PHYSICS, MATERIALS

TOPIC TAGS--ANISOTROPY, SINGLE CRYSTAL, PHYSICS RESEARCH FACILITY, ORDERED  
ALLUY, GRIN SIZE, CRYSTAL DISLOCATEIGN

CENTRAL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--2000/0297

STEP NO--GE/0030/70/039/032/0403/0407

CIRC ACCESSION NO--AP0124050

(CLASSIFIED)

Z/2 034

UNCLASSIFIED

PROCESSING DATE--20NOV7C

CIRC ACCESSION NO--AP0124056

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FORMATION MECHANISM OF INDUCED ANISOTROPY DESCRIBED IN (1) IS APPLIED TO COARSE GRAINED AND SINGLE-CRYSTALLINE SAMPLES. IN THIS CASE THE ANISOTROPY IS EXPLAINED BY AN INHOMOGENEOUS DISTRIBUTION OF VACANCIES AND FOREIGN AtOMS ALONG THE BLOCK BOUNDARIES OR BY THEIR PILING UP ALONG THE ANTIPHASE BOUNDARIES IN AN ORDERED ALLOH. FACILITY: INSTITUTE OF METAL PHYSICS, ACADEMY OF SCIENCES OF THE UKRAINIAN SSR, KIEV.

UNCLASSIFIED

USSR

UDC 669-405:538

LESNIK, N. A., POGORELYY, A. N.

"Influence of Phase Composition and Temperature on NMR in Cobalt Films"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 54, № 1, Jul. 72, pp 67-70.

**Abstract:** This work studies the influence of the dependence of resonance parameters on structural peculiarities of a ferromagnetic material in thin films. The experiments were performed using polycrystalline specimens produced by precipitation of cobalt in a vacuum of at least  $10^{-5}$  mm hg onto mica, common salt and glass substrates at various substrate temperatures. The line shape, intensity and resonant frequency of the nuclear magnetic resonance signal were studied at various substrate temperatures and as functions of the annealing temperature of the specimens in a vacuum. The parameters studied are related to the phase composition and packing defects of the thin films. Based on existing theoretical calculations and the experimental data produced, it is concluded that crystallographic anisotropy begins to influence the NMR signals during annealing of specimens in place of the induced anisotropy which determines the motion of the nuclear magnetic moment before annealing. The lines produced have one or two maxima, resulting from the existence of two modifications of the cobalt. The expansion and displacement

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USSR

UDC 669-405:538

LESNIK, N. A., POGORELYY, A. N., Sverdlovsk, Fizika Metallov i Metallovedeniye,  
Vol 34, No 1, Jul 72, pp 67-70.

ment of the hexagonal peak is caused by the presence of the packing defects  
primarily in the hexagonal phase. A film annealed in a vacuum becomes similar  
to a massive material in its resonant properties.

2/2

- 35 -

USSR

UDC 621.791.011:543.621:546.72

YEREMENKO, V. N., LESNIK, N. D., and NATANZON, YA. V., Institute of Problems of Material Science, Academy of Sciences UkrSSR, and Nyabov, V. E., Institute of Electric Welding imeni YE. O. Paton, Academy of Sciences.

"Interaction of Aluminum With Iron Suitable for Welding Conditions"

Kiev, Avtomaticheskaya Svarka, No 4, Apr 71, pp 14-16

**Abstract:** A general-purpose model for welding of dissimilar metals, developed by the Institute of Metallurgy imeni A. A. Baykov, proposes two stages: formation of contact between the adjacent surfaces and formation of a strong metallic bond between the metals being joined. The authors undertook solving of the problem of welding steel with aluminum alloys considering the interaction of iron and molten aluminum. In this study the first step was spreading of molten aluminum on the iron surface; the second step involved formation of a substrate of intermetallic phases at the iron-aluminum interface; in the third step there occurred dissolution of these phases in the melt of aluminum. Kinetics of molten aluminum wetting on the iron surface was studied and the ratio of growth rates and dissolution of boundary phases was determined. In all cases for the dissolution of iron in molten aluminum a substrate of intermetallics was observed composed for  $\theta(\text{FeAl}_3)$ - and  $\eta(\text{Fe}_2\text{Al}_5)$ -phases. It was concluded that it is impossible to weld iron with aluminum without the formation of intermetallic substrates.

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USSR

UDC: 621.791.856.3.011

RABKIN, D. M., and RYABOV, V. R.; Institute of Electric Welding imeni Ye O. Paton, Academy of Sciences Ukrainian SSR; YEREMENKO, V. N., LESNER, S. D., and PESTUN, T. S.; Institute of Problems of Material Science, Academy of Sciences Ukrainian SSR

"Surface Phenomena in Welding Aluminum Directly to Armco Iron"

Kiev, Avtomaticheskaya Svarka, No 11, Nov 70, pp 20-23

**Abstract:** The behavior of liquid aluminum with respect to solid iron is of great theoretical interest for a number of metallurgical processes. This study concerns the effect of temperature-time conditions on the spreading of aluminum over iron and the intermetallic phases Fe<sub>2</sub>Al<sub>3</sub>, Fe<sub>3</sub>Al<sub>5</sub>, FeAl<sub>3</sub>. The kinetics of spreading was analyzed in vacuum ( $1-3 \cdot 10^{-5}$  mm Hg) at maximum temperatures of the experiment) using filming and telescope lens photography for recording the process. Use was made of AV-000 (99.99% Al) and armco iron. Considered were the possible mechanism for contact interaction of liquid aluminum with iron and the conditions for producing welded joints of

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USSR

RABKIN, D. N., et al, Avtomaticheskaya Svarka, № 11, Nov 1983, pp. 20-23

iron with aluminum with a minimum interlayer of brittle intermediate phases.  
Wetting was found to improve with temperature. Quality welding of armco  
iron with aluminum is achieved by minimum contacting time of iron with its melts  
and high dissolution rate of iron in aluminum.

2/2

USSR

UDC 532.526

LESNIKOV, A. L., Leningrad

"Universal Equation for Laminar Isothermal Boundary Layer in Crocco Variables"

Mekhanika Zhidkosti i Gaza, No 6, 1971, pp 87-91.

ABSTRACT: Certain results are presented from the application of the parametric method of L. G. Loytsyanskiy to boundary layer equations written in crocco variables. A new method is suggested for universalizing boundary layer equations, based on the generally similar representation of friction stress. The universal equations are independent of the specific distribution of velocity over the external boundary of the boundary layer.

USSR

UDC 616.981.553

GLADKOVSKIY, A. P., LESNIKOV, A. L., MAXEROVA, T. A., PANOV, I. A., DIBNER, Z. S., KRUPINA, A. P., and VITIVSKER, V. S., Leningrad hospital imeni S. A. Botkin, and Chair of Infectious Diseases, First Leningrad Medical Institute imeni I. P. Pavlov, and Institute of Epidemiology and Microbiology imeni Pasteur

"Clinical Symptoms and Etiology of Botulism"

Moscow, Klinicheskaya Meditsina, Vol 48, No 9, Sep 70, pp 79-83

Abstract: From 1959 to 1967 the authors treated 14 cases of botulism, most of which were caused by eating marinated or salted mushrooms or home-canned fish. The incubation period ranged from 2 hours to 3 days. The disease was incorrectly diagnosed in all but one case, owing to unfamiliarity with the symptoms on the part of the first doctors to see the patients (botulism had not sometime been virtually eradicated in the USSR). The initial symptoms are characteristic and readily detectable. They include a combination of indications of gastrointestinal disorders (vomiting, nausea, constipation, abdominal pains), with symptoms of impaired vision (anisocoria, mydriasis, diplopia, blepharoptosis, nystagmus, etc.), impaired swallowing, speech, and respiration. Prompt injection of antitbotulinus serum usually prevents further development of the symptoms and, combined with antibiotics and hormones plus cardiovascular agents, strychnine, physostigmine, and pilocarpine, brings about recovery within about a month.

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1/2 026 UNCLASSIFIED PROCESSING DATE--02 OCT 70  
TITLE--EFFECTIVENESS OF TREATMENT OF PATIENTS WITH ECZEMA, PSORIASIS AND  
NEURODERMATITIS AT THE VANGU SPA RESORT -U-  
AUTHOR-(03)-DYAKONOV, M.F., BEZA, S.A., LESNIKOV, G.A.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK DERMATOLOGII I VENEROLOGII, 1970, NR 3, PP 39-42

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DERMATITIS, VITAMIN, PROPHYLAXIS, NERVOUS SYSTEM DISEASE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1986/0691

STEP NO--UR/0206/70/000/003/0039/0062

CIRC ACCESSION NU--AP0102675

UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--APOLO2675  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THERE WERE 1701 PATIENTS UNDER  
OBSERVATION, OF THEM 857 WITH CHRONIC ECZEMA, 678 WITH PSORIASIS, 165  
WITH NEURODERMATITIS. THE PATIENTS RECEIVED COMPOSITE TREATMENT:  
GENERAL BATHS OF MINERAL WATER AT A TEMPERATURE OF PLUS 35DEGREES TO  
38DEGREES, OF 10 TO 15 MINUTES' DURATION, A COURSE CONSISTING OF 12 TO  
20 BATHS; SHOWERS, HELIO AEROTHERAPY. SOME PATIENTS WERE GIVEN  
DESENSITIZING THERAPY AND VITAMINS. THE FOLLOWING IMMEDIATE RESULTS  
WERE OBTAINED: FOR PATIENTS WITH CHRONIC ECZEMA CLINICAL CURE IN  
33.7PERCENT, CONSIDERABLE IMPROVEMENT IN 15.5PERCENT, IMPROVEMENT IN  
47.3PERCENT, NO CHANGE IN 2.5PERCENT, EXACERBATION IN 1PERCENT; FOR  
PATIENTS WITH PSORIASIS CLINICAL CURE IN 28.9PERCENT, SIGNIFICANT  
IMPROVEMENT IN 28.6PERCENT; IMPROVEMENT IN 41.3PERCENT, NO CHANGES IN  
1.2PERCENT. IN NEURODERMATITIS CLINICAL CURE WAS OBSERVED IN 27PERCENT,  
CONSIDERABLE IMPROVEMENT IN 20PERCENT, IMPROVEMENT IN 49.4PERCENT, NO  
CHANGES IN 3.6 PERCENT OF THE PATIENTS.

UNCLASSIFIED

1/2 022  
TITLE--SHURT TERY CREEP OF NICKEL IN A HIGH SPEED AIR FLOW -I-  
UNCLASSIFIED  
PROCESSING DATE--02 OCT 70  
AUTHOR--(05)-SOROKIN, V.G., BOGACHEV, I.N., VEKSLER, YU.G., LESNIKOV, V.P.  
FILIPPOV, M.A.  
COUNTRY OF INFO--USSR  
SOURCE--METALLOVED. TERM. OBRAB. METAL. 1970, (3), 2-5  
DATE PUBLISHED-----70

## SUBJECT AREAS--MATERIALS

TOPIC TAGS--NICKEL, CREEP RESISTANCE, AIR FLOW, OXIDE FILM, CRYSTAL  
DISLOCATION PHENOMENON

## CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1989/1935

STEP NO--UR/0129/70/000/003/0002/0009

CIRC. ACCESSION NO--AP0103264  
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--02OCT70

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022

CIRC ACCESSION NJ--AP0108264  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AT 700-HOODGREES THE RESISTANCE  
TO CREEP OF TECHN. PURE NI IS HIGHER WHEN TESTED IN AIR THAN WHEN TESTED  
IN VACUUM. THIS IS DUE TO THE STRENGTHENING INFLUENCE OF AN OXIDE FILM  
WHICH PREVENTS THE EMERGENCE OF DISLOCATIONS ONTO THE FREE SURFACE. IN  
A FAST AIR FLOW THE CREEP OF NI IS STRONGLY ENHANCED BY THE CORROSION  
EROSIVE ACTION. THE TIME TO RUPTURE IS SHORTENED.

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UNCLASSIFIED